Staff Draft
California Energy Demand 2003-2013 Forecast

Presentation for the Integrated Energy Policy Report Workshop

February 25, 2003

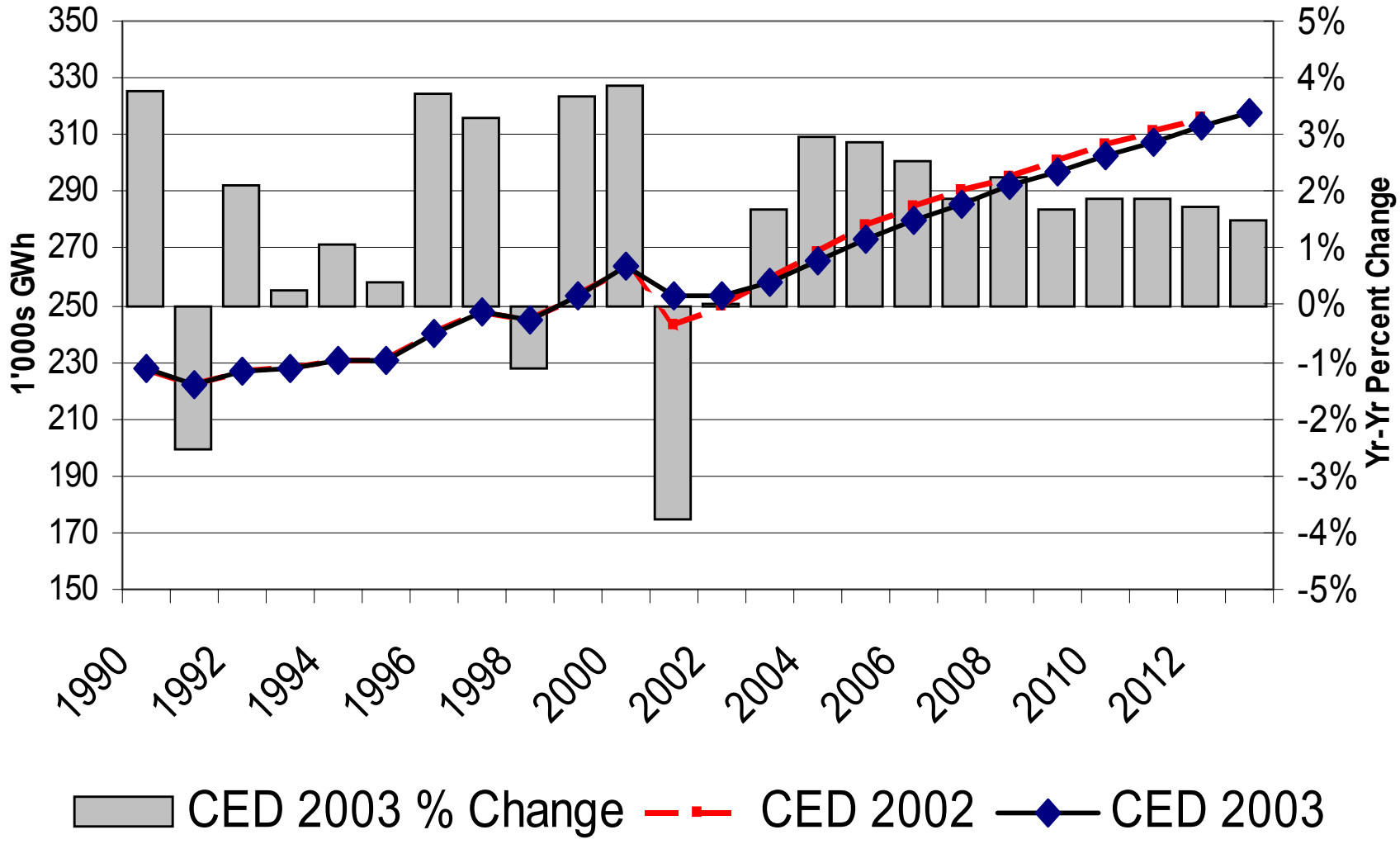
Outline

1. Overview of Baseline Forecast and Results
2. Key forecast issues
   - Rates
   - Economic Trends
   - Conservation
3. Proposed Scenarios

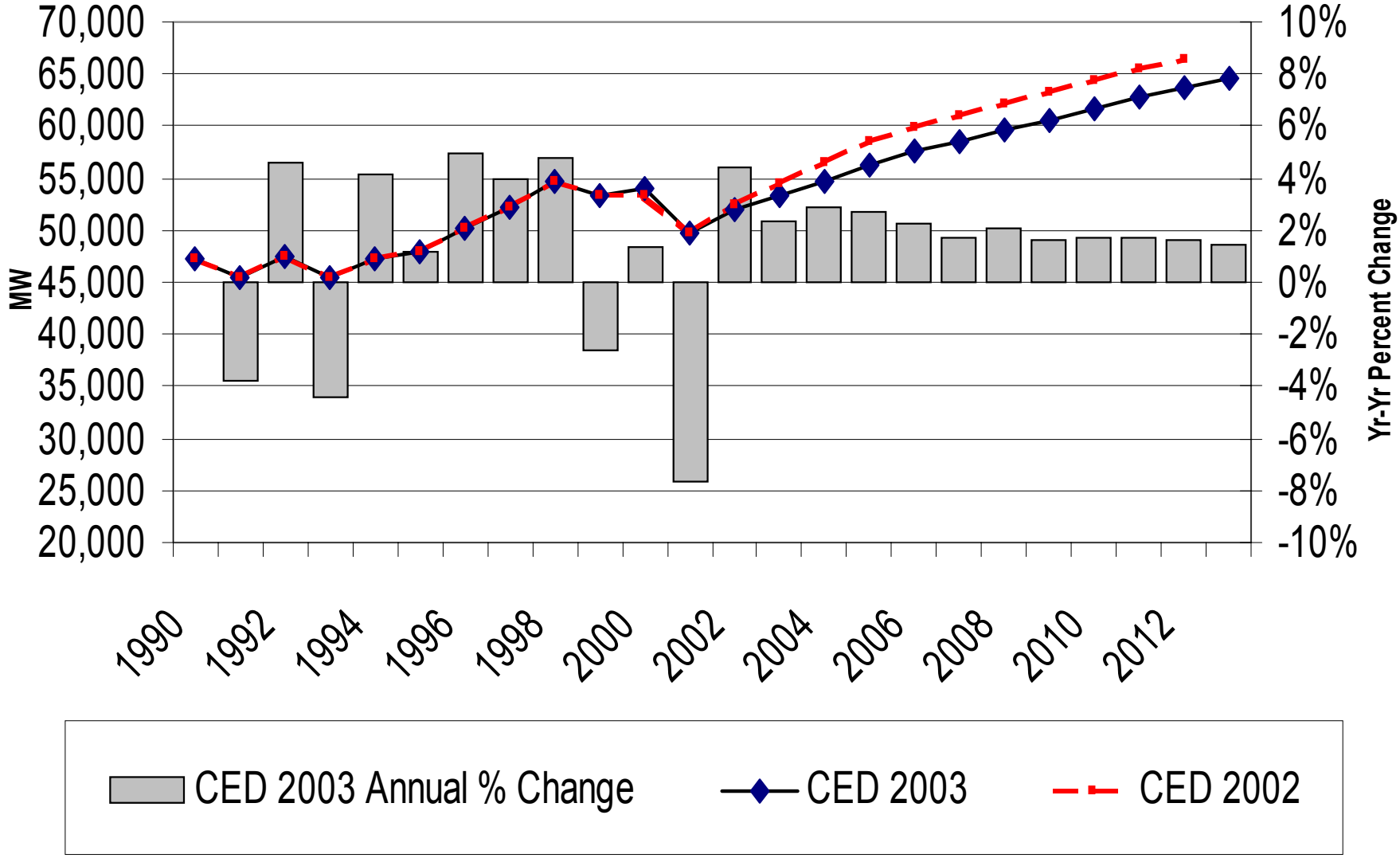
Key Assumptions

- Base year is 2001
- Moderate economic growth
- No change in rate structure
- Low private supply (self generation)
- 2003+ DSM not included
- Voluntary conservation – most (but not all) rebound has occurred in 2002

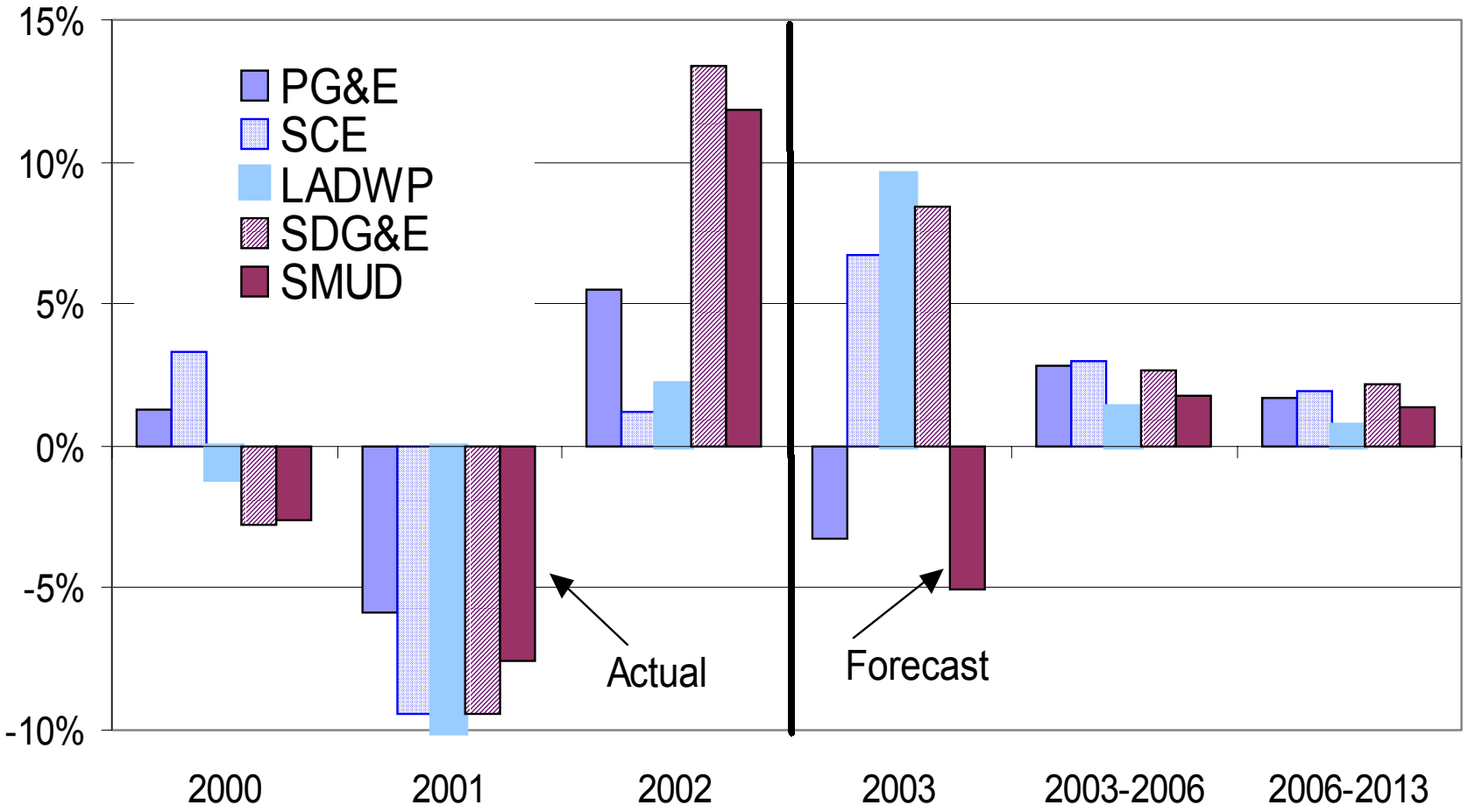
California Electricity Consumption Forecast (1,000 GWh)



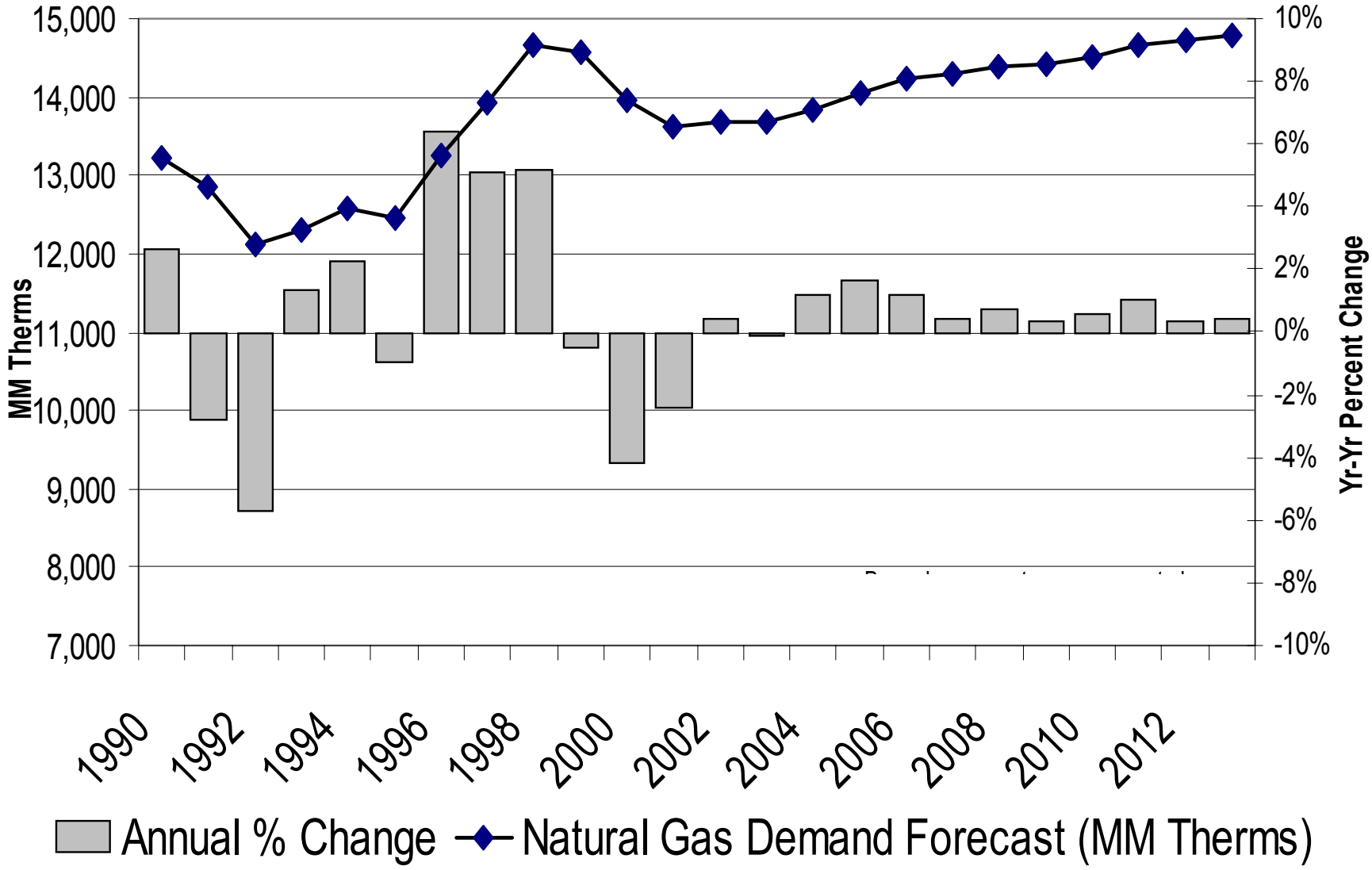
California Peak Demand (MW)



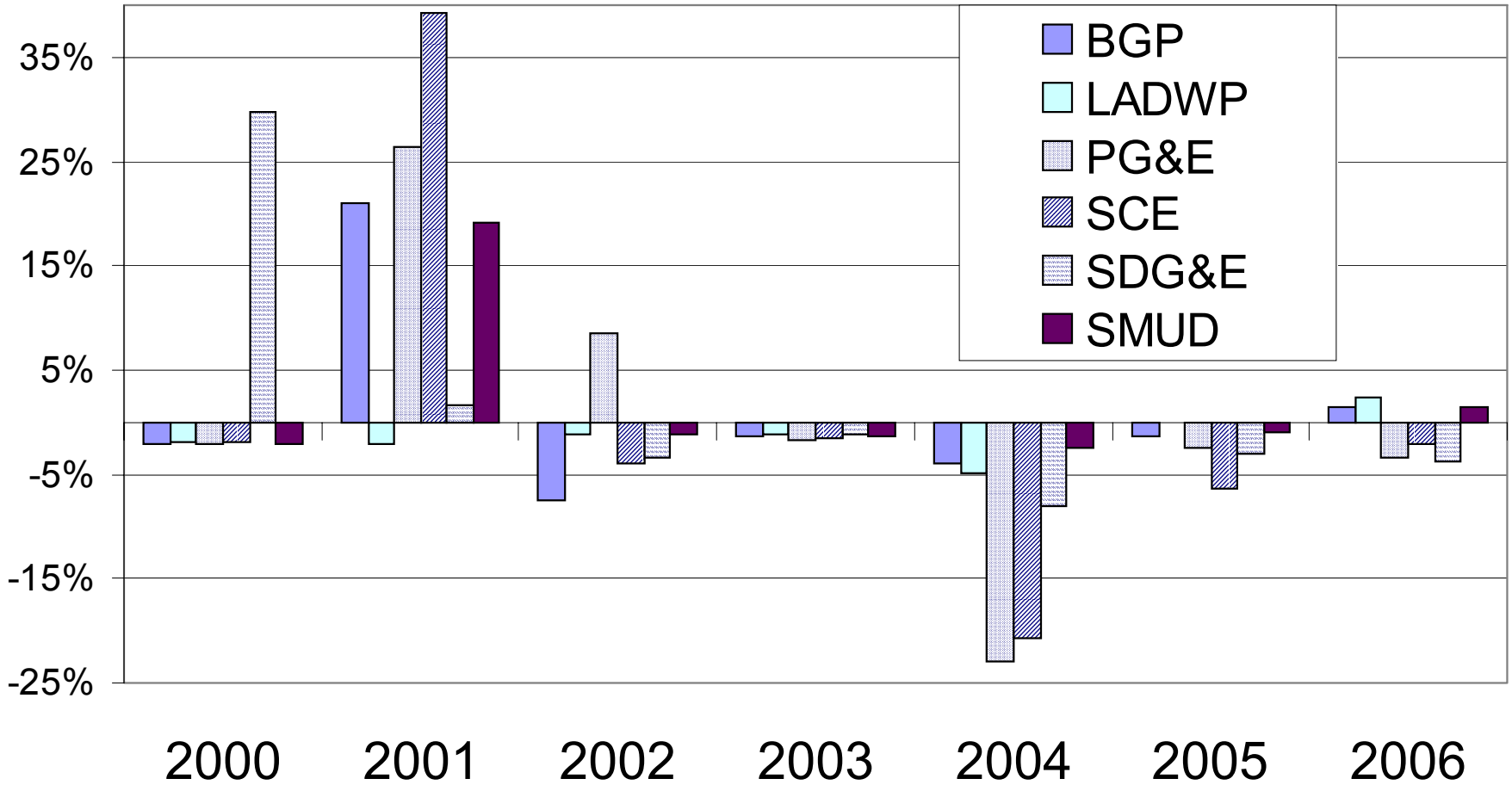
California Peak Demand
Annual Percent Increase by Utility



Natural Gas End Use Demand Forecast

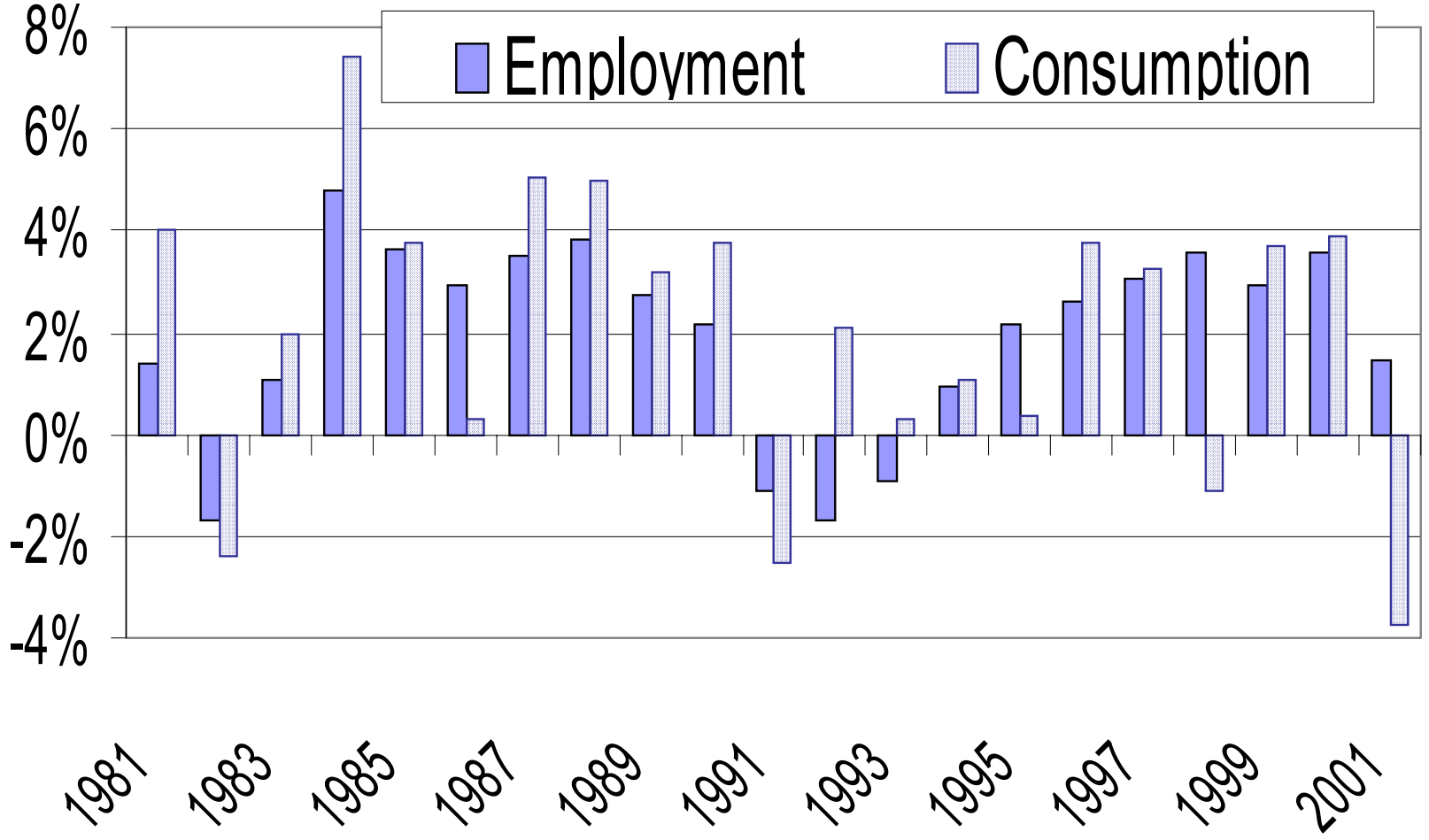


Annual Percent Change in System Average Electricity Rates (2001$)



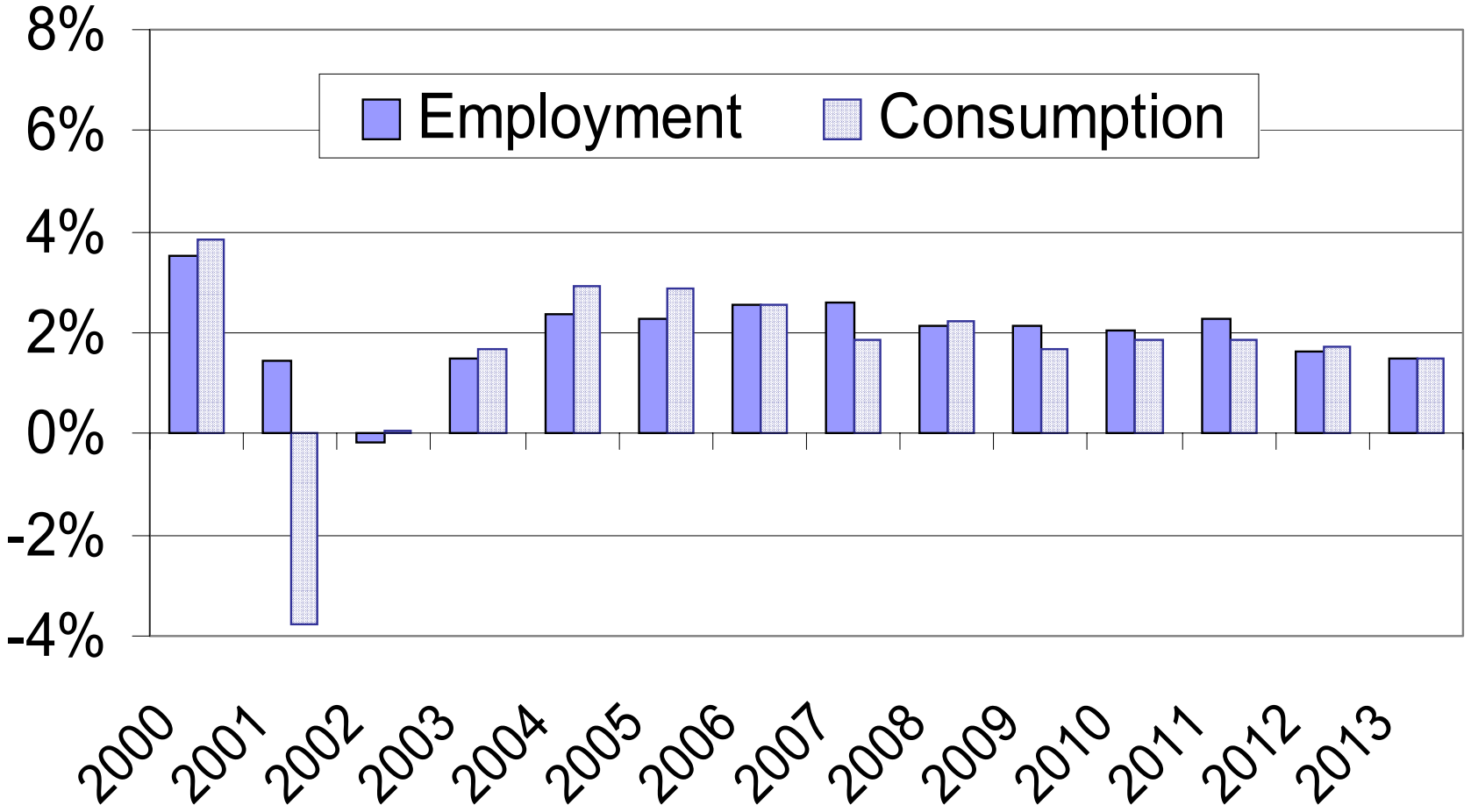
Electricity Consumption and Employment

Annual Percent Change 1981 –2001

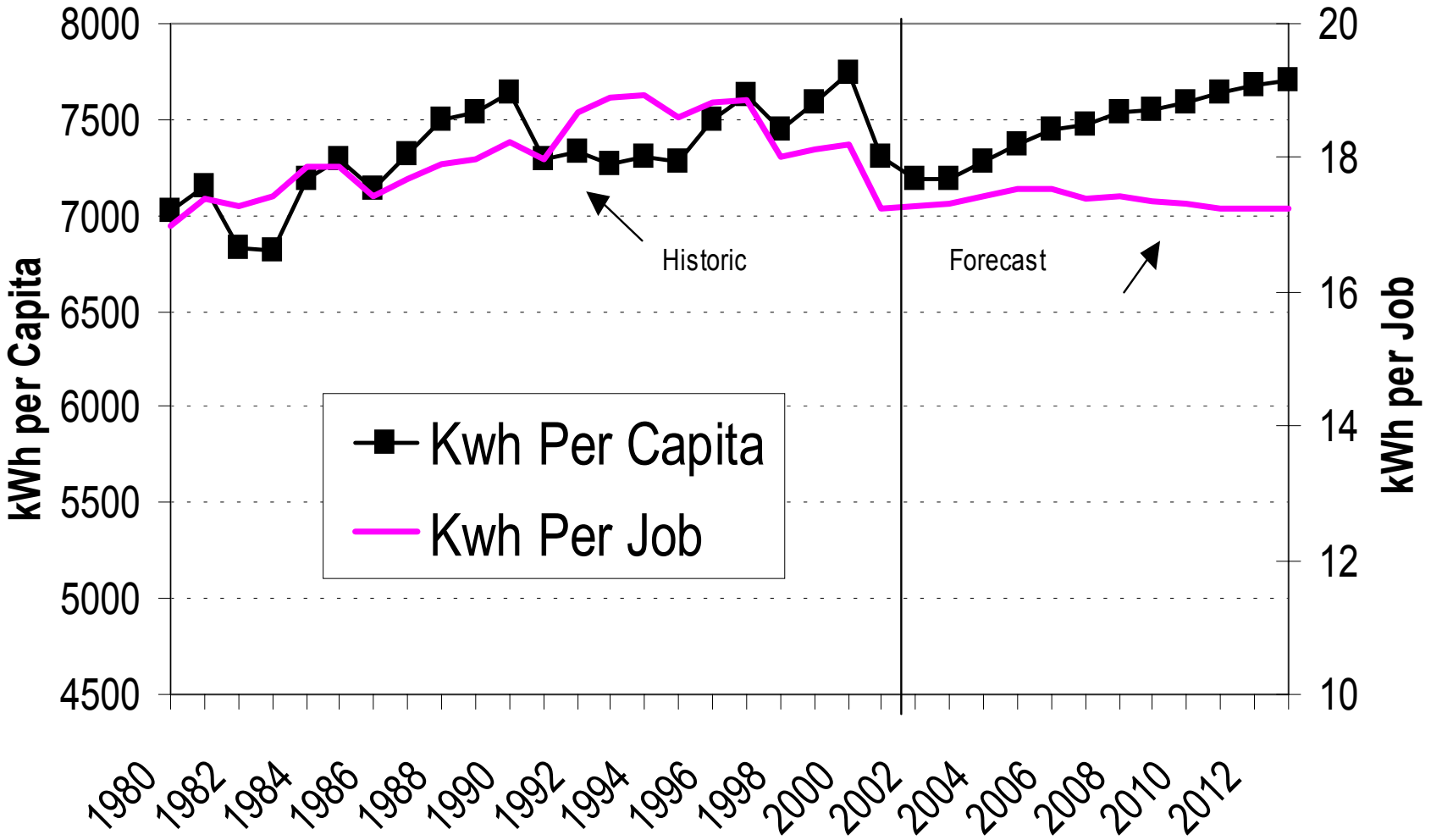


Electricity Consumption and Employment

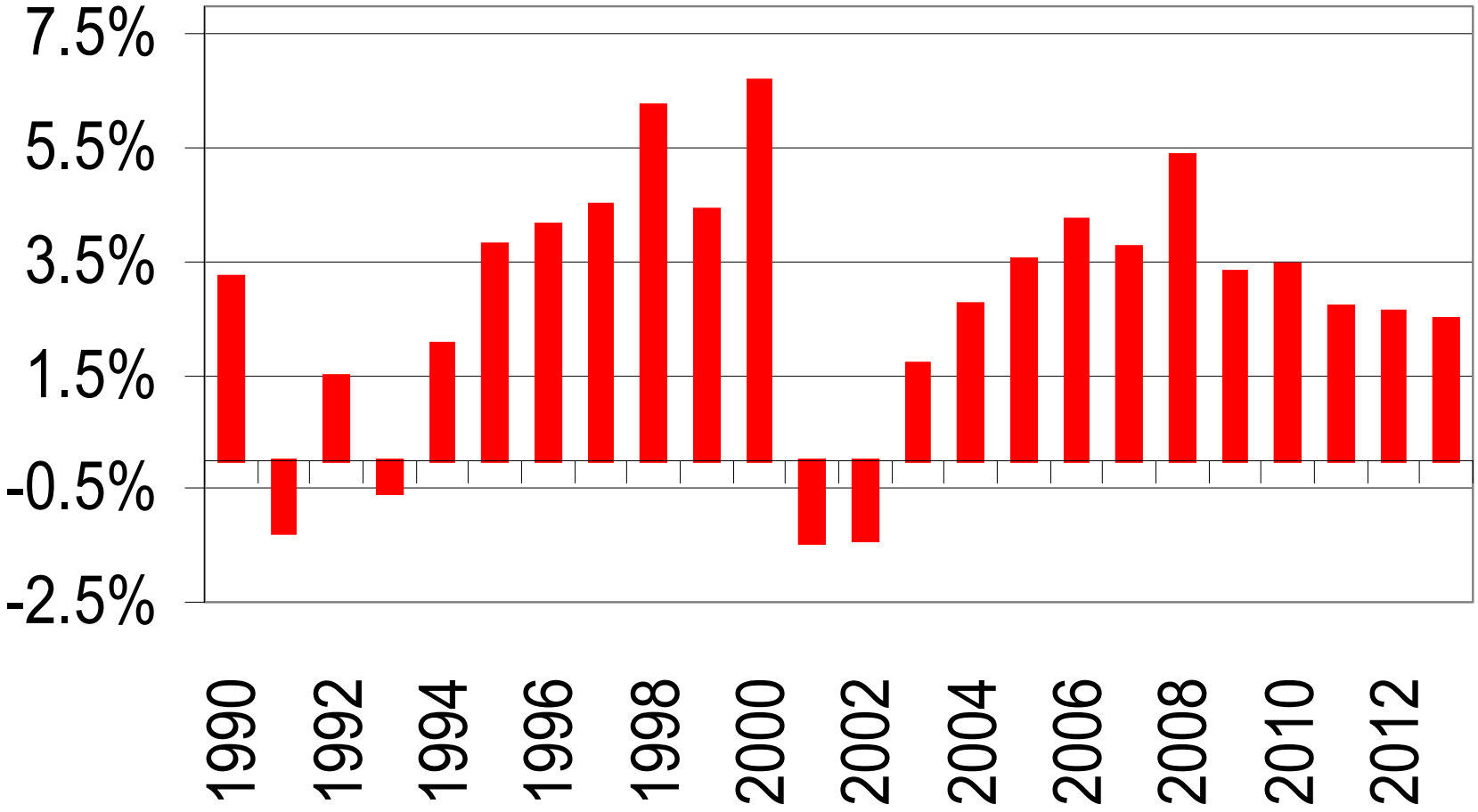
Annual Percent Change 2000 –2013



Consumption per Capita and per Job



Annual Growth in Real Personal Income

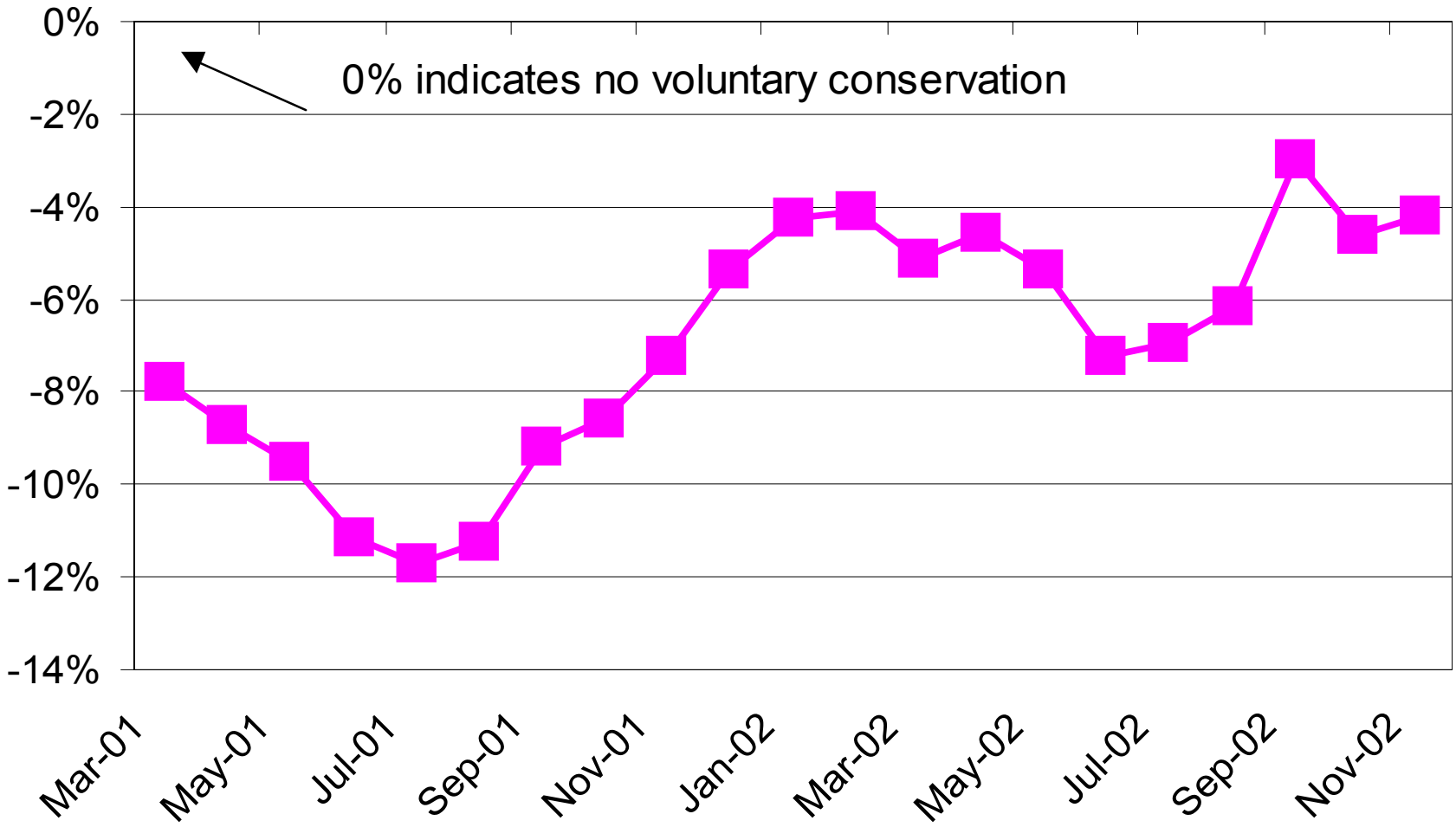


Conservation Behavior

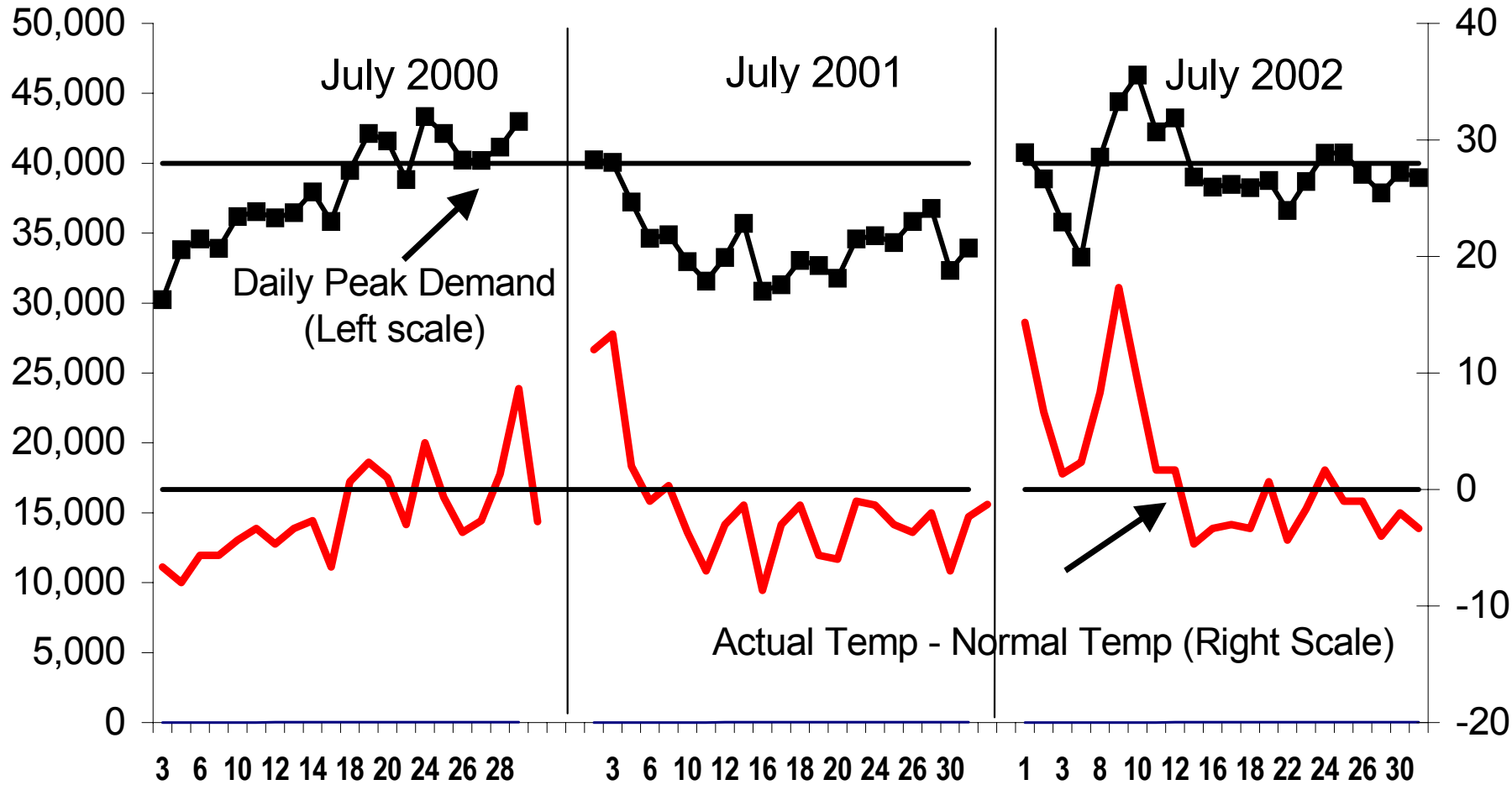
- Peak conservation appears to be persisting at about 1/3 to 1/2 of what we saw in 2001
- No explicit adjustment to forecast
- Smaller impact on energy than on peak

Monthly Peak Demand as Percent of 2000

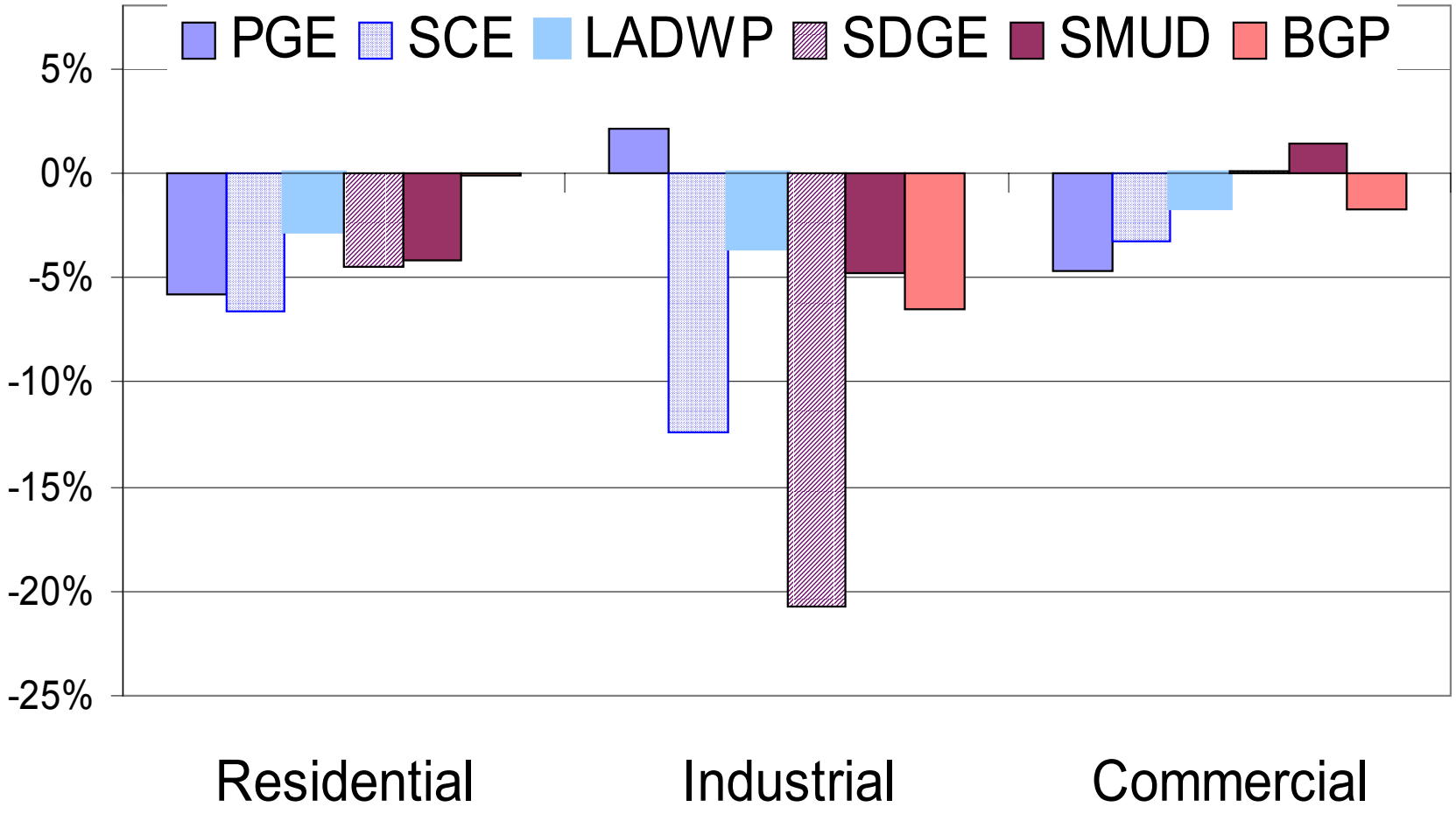
Three-Month Moving Average adjusted for weather and growth



Weekday CAISO Peaks (MW) and Temperatures



Percent Change in Electricity Consumption 2000 - 2001



Why Scenarios?

- To highlight risks to infrastructure under possible divergent states of the world
- A single point forecast creates the dangerous illusion of precision
- Scenarios are possible futures, not predictions

Three proposed demand scenarios

Scenario 1: Baseline: slow and stable

Scenario 2: The Next Big Thing:

- Gigatechnology boom leads to rapid growth (+1% 2005-2008)
- Rush to produce more important than efficiency.
- Faster income & population growth spurs energy demand.

Scenario 3. Lean and green

- Recovery never takes off; slower economic growth and hence lower growth in personal income.
- Businesses focus on risk management and cost competition, leading to increased investment in distributed generation and energy efficiency.
- Increased public spending on energy efficiency.

Natural Gas Demand Scenarios

- High gas price forecast combined with scenario #3 (Low economic forecast)
- Low gas prices combined with scenario #2 (High economic forecast)

Questions

1. What are the greatest uncertainties for electricity and natural gas demand? On which variables should the scenarios focus?

2. What assumptions should be made about energy efficiency and distributed generation?